

Curriculum Vitae

Guilherme Lima

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1 Dados Pessoais

- Nome Completo: **José Guilherme Rocha de Lima**
- Endereço para Correspondência:
107 Woodland Circle
North Aurora, IL 60542-3321 – USA
Email: lima@fnal.gov
Phone: +1-630-862-6913
FAX: +1-630-252-6169

2 Formação Acadêmica

Auxiliar Técnico de Arquitetura	20/dez/1983
Centro de Ensino Técnico do Estado do Pará (CETEP)	
Belém (PA)	
Bacharel em Física	12/fev/1988
Universidade Federal do Pará (UFPA)	
Belém (PA)	
Mestre em Ciências Físicas	18/abr/1991
Centro Brasileiro de Pesquisas Físicas (CBPF)	
Rio de Janeiro (RJ)	
Doutor em Ciências Físicas	23/mai/1995
Centro Brasileiro de Pesquisas Físicas (CBPF)	
Rio de Janeiro (RJ)	

3 Experiência Profissional

- Research Associate no NICADD (*Northern Illinois Center for Accelerator and Detector Development*), Northern Illinois University, desde 01/maio/2003. Responsável pelo desenvolvimento de aplicativos para a simulação de detectores e de algoritmos de reconstrução (*Particle Flow*) para o *Next Linear Collider*, o qual possui operação prevista para 2015.
- Co-coordenador do Grupo de Reconstrução de Fluxo de Partículas (*Particle Flow Algorithms*) para o *Next Linear Collider*, desde agosto/2004.
- Professor Adjunto do Departamento de Física Nuclear e Altas Energias (DFNAE / IF / UERJ), de março/1996 a agosto/2003;
- Sub-chefe do DFNAE/IF/UERJ, entre jan/2002 e ago/2003;
- Co-coordenador do Grupo de Reconstrução de Vértices no experimento DØ, de fevereiro/2000 a agosto/2003;
- Cientista Convidado no Fermilab, em Illinois (USA), entre out/1998 e out/2000, para desenvolvimento e implementação de algoritmos de reconstrução de vértices no novo detector DØ;
- Coordenador do Laboratório de Física IV entre março/1996 e agosto/1997. Nesta atribuição, coordenei uma equipe de professores para a montagem de equipamentos científicos Pasco, para a realização de experiências didáticas pelos alunos dos cursos de graduação;
- Cientista Convidado no Fermilab, em Illinois (USA), de outubro de 1991 a outubro de 1993, quando participei da fase final da montagem e desenvolvimento, bem como da operação normal e da manutenção do gatilho (*trigger*) do sistema de mísseis do detector DØ;

4 Atividades Didáticas

- Curso de Física Geral, entre ago/2002 e dez/2002, para turmas de graduação em Física do Instituto de Física da UERJ;
- Curso de Estrutura da Matéria II (parte de laboratório), entre outubro/2000 e julho/2002, para turmas de graduação em Física (bacharelado e licenciatura) do Instituto de Física da UERJ;
- Curso de Física Teórica e Experimental IV (parte de laboratório), entre março de 2001 e dezembro de 2002, para turmas de graduação em engenharia da Faculdade de Engenharia da UERJ;
- Curso de Física Estatística, para alunos de graduação em Física, licenciatura e bacharelado (1º sem/98);
- Curso de Física Teórica e Experimental IV (parte de laboratório), entre agosto de 1995 e dezembro de 1997, para turmas de graduação em engenharia da Faculdade de Engenharia e do Instituto de Química/UERJ;

5 Atividades de Extensão

- Apresentador da atividade “Experiências sobre as Propriedades da Luz e a Estrutura da Matéria”, na edições 8^a (1997), 11^a (2000) e 12^a (2001) do UERJ sem Muros, juntamente com outros professores do Instituto de Física/UERJ;
- Coordenador da atividade “Experiências sobre as Propriedades da Luz e a Estrutura da Matéria”, apresentada na 8^a edição do UERJ sem Muros, com a participação de oito professores do Instituto de Física/UERJ, em 09-11/set/1997;
- Aula de Laboratório para alunos de Física Experimental I do curso de Desenho Industrial da ESDI/UERJ, em 30/set/1997;
- Quatro aulas de Laboratório (a título de complementação) para alunos da disciplina de Óptica II do curso de Física da UERJ, no 1º semestre de 1997;

6 Atividades Científicas

- Estou atualmente envolvido, desde maio/2003, no desenvolvimento de ferramentas de simulação de detetores e algoritmos de reconstrução para o *Next Linear Collider*, que deverá entrar em operação em 2015.
- Estou encarregado de coordenar, desde agosto/2004, juntamente com o Dr. Stephen Magill (Argonne National Laboratory), o desenvolvimento de algoritmos de reconstrução de fluxo de partículas (*Particle Flow Algorithms*) para o *Next Linear Collider*.
- Dividi, sempre em parceria com outro pesquisador, a coordenação das atividades de reconstrução de vértices no experimento DØ, entre fev/2000 a ago/2003;
- Na qualidade de pesquisador do DFNAE/IF/UERJ desde abril de 1996, faço parte da Colaboração Internacional DØ, responsável pelos experimentos E740 (DØ) e E823 (DØ Upgrade), no Fermilab (*Fermi National Accelerator Laboratory*);
- Participei ativamente no desenvolvimento e implementação de algoritmos de reconstrução de vértices para a atual fase de tomada de dados, iniciada em novembro de 2001;
- Fiz parte, entre out/91 e jul/95, do grupo do LAFEX/CBPF perante a Colaboração Científica Internacional DØ, período correspondente ao meu programa de doutorado naquela instituição, quando estudei a produção de mûons na região cinemática $2,2 < |\eta| < 3,4$ em colisões de prótons e antiprotons a energias de 1,8 TeV;
- Trabalhei de mar/89 a jul/91 no LAFEX, com a análise de dados do experimento E691 (*Charm Photoproduction*), que culminou na primeira observação experimental de um modo de decaimento duplamente suprimido por Cabibbo, $D^+ \rightarrow \phi K^+$.

7 Atividades de Orientação Científica

- Orientação de Iniciação Científica (bolsa CNPq) de Alex Dopazo Mello, estudante do curso de Física da UERJ, desde ago/2001;
- Orientação de Iniciação Científica (bolsa PIBIC/UERJ) de Jefferson Luiz da Silva Oliveira, estudante do curso de Física da UERJ, desde ago/2001;
- Orientação de Iniciação Científica (com bolsa PIBIC/UERJ) de Renata dos Santos Chagas, estudante do curso de Física da UERJ, de jun/1998 a out/1998;
- Orientação de Iniciação Científica de Luciano Pinheiro Albertini, estudante do curso de Matemática da UERJ, de jun/1997 a out/1998;
- Orientação de Iniciação Científica de Roberto Salomon de Souza, estudante do curso de Bacharelado em Física da UERJ, de out/1995 a ago/1996;

8 Seminários Apresentados a Convite

1. Perspectivas no Experimento DØ – Colóquios da Pós-Graduação do IF/UERJ, Rio de Janeiro (RJ), 24/jan/2001;
2. Generalidades sobre a Física de Altas Energias – Depto. de Física/UFJF, Juiz de Fora (MG), 22/jun/1995;
3. Generalidades sobre o DØ – Depto. de Física/UFPa, Belém, 06/jan/94;
4. Análise Experimental do Decaimento Fraco $D^+ \rightarrow \phi K^+$ – Depto. de Física/UFPa, Belém, 24/mai/91;

9 Participação em Congressos e Encontros

9.1 Com Apresentação de Trabalhos

1. “LCDG4 and DigiSim – Simulation Activities at NIU”, *International Linear Collider Workshop 2005*, Stanford University, California (USA), março de 2005;
2. “DigiSim, a digitization simulation package”, *CALICE Collaboration Meeting*, realizado na *Northern Illinois University*, Illinois (USA), março de 2005;
3. “A digitization simulation package for the ILC and the CALICE test beam”, *CALICE Collaboration Meeting and ILC Simulations Workshop*, realizados no DESY (Deutsch Elektronen-SYnchrotron Lab), Hamburgo (Alemanha), dezembro de 2004;
4. “Status report on simulation tools at NIU”, *American Linear Collider Workshop*, realizado na University of British Columbia, Victoria (Canada), julho de 2004;
5. “Geant4-based simulation, status and plans”, *American Linear Collider Workshop*, realizado no SLAC (Stanford Linear Accelerator Center), Menlo Park (CA, USA), janeiro de 2004;
6. “Simulation efforts at NIU, Status and Plans”, *American Linear Collider Workshop*, realizado na Cornell University, Ithaca (NY, USA), julho de 2003;
7. “Experimental Methods of High Energy Physics”, curso de 4 horas apresentado na sessão B da *Lafex International School on High Energy Physics*, realizado na UERJ, Rio de Janeiro (RJ), fevereiro de 2002;
8. “Reconstrução de Vértices no Experimento DØ”, *XXII Encontro Nacional de Física de Partículas e Campos*, São Lourenço (MG), outubro de 2001;
9. “Vertex Analysis Package”, “Primary Vertexing Performance Using the Impact Parameters Algorithm”, e “Primary Vertex Tool for the Level 3 Trigger”, trabalhos apresentados no *DØ Workshop*, DeKalb (IL, USA), junho de 2000;
10. “DØ results of Run I and perspectives for Run II”, *Workshop on B Physics at the Tevatron – Run II and Beyond*, Fermilab (USA), setembro de 1999;
11. “Perspectives on the use of Hybrid Photodiode Detectors for the Auger Observatory”, VI Auger Collaboration Meeting – Itacuruçá (RJ), maio de 1998;
12. “Seção de Choque de Produção Inclusiva de Múons a Baixos Ângulos no Experimento DØ”, XV Encontro Nacional de Física de Partículas e Campos – Angra dos Reis (RJ), outubro de 1994;
13. “Preliminary Results on the η Dependence of the Muon Production Cross Section”, DØ General Collaboration Meeting, Batavia (IL), setembro de 1993;

14. “Measuring Muon Production Cross Section in DØ Muon System Endcaps”, DØ General Collaboration Meeting, State University of New York at Stony Brook (EUA), junho de 1993;
15. “Study of the Doubly Cabibbo-Suppressed Decay $D^+ \rightarrow \phi K^+$ and the Singly Cabibbo-Suppressed Decay $D_s^+ \rightarrow \phi K^+$ ” – Workshop on Heavy Flavor Physics (I LISHEP, Session C) – Rio de Janeiro (RJ), fevereiro de 1993;

9.2 Sem Apresentação de Trabalhos

1. Linear Collider Simulation Workshop, SLAC, Menlo Park (CA, USA), maio de 2003;
2. Linear Collider Simulations Workshop, NIU, Dekalb (IL, USA), novembro de 2003;
3. Lafex International School on High Energy Physics – Session C, *Workshop on Diffractive Physics e Grid Computing Workshop*, Rio de Janeiro (RJ), fevereiro de 2002;
4. Workshop on B Physics at the Tevatron – Run II and Beyond, Fermilab (USA), fevereiro de 2000;
5. III Encontro Brasileiro sobre o Projeto Pierre Auger – Itatiaia (RJ), dezembro de 1997;
6. Vertex’97, International Workshop on Vertex Detectors – Mangaratiba (RJ), setembro de 1997;
7. II Encontro Brasileiro sobre o Projeto Pierre Auger – Itatiaia (RJ), junho de 1997;
8. Computing for High Energy Physics (CHEP95) – Rio de Janeiro (RJ), setembro de 1995;
9. II LAFEX International School on High Energy Physics (LISHEP) – Rio de Janeiro (RJ), fevereiro de 1995;
10. B-Physics Workshop – Bloomington, Indiana (EUA), dezembro de 1992;

10 Produção Científica

10.1 Trabalhos publicados em periódicos estrangeiros

10.1.1 Publicados até 1994

1. Study of the Doubly Cabibbo-Suppressed Decay $D^+ \rightarrow \phi K^+$ and the Singly Cabibbo-Suppressed Decay $D_s^+ \rightarrow \phi K^+$, TPS Collaboration (J. Anjos *et.al.*), *Phys. Rev. Lett.* **69**, 2892-2895 (1992)
2. The DØ Detector, DØ Collaboration (S. Abachi *et.al.*), *Nucl. Instr. and Meth. A* **338**, 185-253 (1994)
3. First Generation Leptoquark Search in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV, DØ Collaboration (S. Abachi *et.al.*), *Phys. Rev. Lett.* **72**, 965-969 (1994)
4. Search for the Top Quark in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV, DØ Collaboration (S. Abachi *et.al.*), *Phys. Rev. Lett.* **72**, 2138-2142 (1994)
5. Rapidity Gaps Between Jets in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV, DØ Collaboration (S. Abachi *et.al.*), *Phys. Rev. Lett.* **72**, 2332-2336 (1994)

10.1.2 Publicados em 1995

1. Search for High Mass Top Quark Production in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV, DØ Collaboration (S. Abachi *et.al.*), *hep-ex/9411001* e *Phys. Rev. Lett.* **74**, 2422-2426 (1995)
2. Observation of the Top Quark, DØ Collaboration (S. Abachi *et.al.*), *hep-ex/9503003* e *Phys. Rev. Lett.* **74**, 2632-2637 (1995)
3. Inclusive μ and b -Quark Production Cross Sections in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV, DØ Collaboration (S. Abachi *et.al.*), *Phys. Rev. Lett.* **74**, 3548-3552 (1995)
4. Search for Squarks and Gluinos in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV, DØ Collaboration (S. Abachi *et.al.*), *Phys. Rev. Lett.* **75**, 618-623 (1995)
5. Search for W Boson Pair Production in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV, DØ Collaboration (S. Abachi *et.al.*), *hep-ex/9503012* e *Phys. Rev. Lett.* **75**, 1023-1027 (1995)
6. Limits on the Anomalous $ZZ\gamma$ and $Z\gamma\gamma$ Couplings in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV, DØ Collaboration (S. Abachi *et.al.*), *hep-ex/9503010* e *Phys. Rev. Lett.* **75**, 1028-1033 (1995)
7. Measurement of the $WW\gamma$ Gauge Boson Couplings in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV, DØ Collaboration (S. Abachi *et.al.*), *hep-ex/9505007* e *Phys. Rev. Lett.* **75**, 1034-1039 (1995)

8. **W and Z Boson Production in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV**, DØ Collaboration (S. Abachi *et.al.*), *hep-ex/9505013 e Phys. Rev. Lett.* **75**, 1456-1461 (1995)
9. **Transverse Energy Distributions Within Jets in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV**, DØ Collaboration (S. Abachi *et.al.*), *Phys. Lett. B* **357**, 500-508 (1995)
10. **Search for Heavy W Bosons in 1.8 TeV $p\bar{p}$ Collisions**, DØ Collaboration (S. Abachi *et.al.*), *Phys. Lett. B* **358**, 405-411 (1995)
11. **Study of the Strong Coupling Constant Using $W +$ Jet Processes**, DØ Collaboration (S. Abachi *et.al.*), *Phys. Rev. Lett.* **75**, 3226-3231 (1995)
12. **Top Quark Search with the DØ 1992–1993 Data Sample**, DØ Collaboration (S. Abachi *et.al.*), *Phys. Rev. D* **52**, 4877-4919 (1995)
13. **Second Generation Leptoquark Search in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV**, DØ Collaboration (S. Abachi *et.al.*), *hep-ex/9507002 e Phys. Rev. Lett.* **75**, 3618-3623 (1995)

10.1.3 Publicados em 1996

1. **Jet Production via Strongly Interacting Color-Singlet Exchange in $p\bar{p}$ Collisions**, DØ Collaboration (S. Abachi *et.al.*), *hep-ex/9509013 e Phys. Rev. Lett.* **76**, 734-739 (1996)
2. **J/ψ Production in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV**, DØ Collaboration (S. Abachi *et.al.*), *Phys. Lett. B* **370**, 239-248 (1996)
3. **Search for Light Top Squarks in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV**, DØ Collaboration (S. Abachi *et.al.*), *Phys. Rev. Lett.* **76**, 2222-2227 (1996)
4. **Search for $\tilde{W}_1 \tilde{Z}_2$ Production via Trilepton Final States in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV**, DØ Collaboration (S. Abachi *et.al.*), *hep-ex/9512004 e Phys. Rev. Lett.* **76**, 2228-2233 (1996)
5. **Search for Right-Handed W Bosons and Heavy W' in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV**, DØ Collaboration (S. Abachi *et.al.*), *hep-ex/9512007 e Phys. Rev. Lett.* **76**, 3271-3276 (1996)
6. **Studies of Topological Distributions of Inclusive Three- and Four-Jet Events in $p\bar{p}$ Collisions at $\sqrt{s} = 1800$ GeV with the DØ Detector**, DØ Collaboration (S. Abachi *et.al.*), *hep-ex/9509005 e Phys. Rev. D* **53**, 6000-6016 (1996)
7. **Azimuthal Decorrelation of Jets Widely Separated in Rapidity**, DØ Collaboration (S. Abachi *et.al.*), *hep-ex/9603010 e Phys. Rev. Lett.* **77**, 595-600 (1996)
8. **Search for Additional Neutral Gauge Bosons**, DØ Collaboration (S. Abachi *et.al.*), *Phys. Lett. B* **385**, 471-478 (1996)

9. Search for Anomalous WW and WZ Production in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV, DØ Collaboration (S. Abachi *et.al.*), *hep-ex/9606013 e Phys. Rev. Lett.* **77**, 3303-3308 (1996)
10. Measurement of the W Boson Mass, DØ Collaboration (S. Abachi *et.al.*), *hep-ex/9607011 e Phys. Rev. Lett.* **77**, 3309-3314 (1996)
11. Isolated Photon Cross Section in the Central and Forward Rapidity Regions in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV, DØ Collaboration (S. Abachi *et.al.*), *hep-ex/9603006 e Phys. Rev. Lett.* **77**, 5011-5015 (1996)

10.1.4 Publicados em 1997

1. Search for Diphoton Events With Large Missing Transverse Energy in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV, DØ Collaboration (S. Abachi *et.al.*), *hep-ex/9612011 e Phys. Rev. Lett.* **78**, 2070-2074 (1997)
2. Limits on Anomalous $WW\gamma$ Couplings from $p\bar{p} \rightarrow W\gamma + X$ Events at $\sqrt{s} = 1.8$ TeV, DØ Collaboration (S. Abachi *et.al.*), *hep-ex/9612002 e Phys. Rev. Lett.* **78**, 3634-3639 (1997)
3. Study of the $ZZ\gamma$ and $Z\gamma\gamma$ Couplings in $Z(\nu\nu)\gamma$ Production, DØ Collaboration (S. Abachi *et.al.*), *hep-ex/9702011 e Phys. Rev. Lett.* **78**, 3640-3645 (1997)
4. Search for a Fourth Generation Charge -1/3 Quark Via Flavor Changing Neutral Current Decay, DØ Collaboration (S. Abachi *et.al.*), *hep-ex/9611021 e Phys. Rev. Lett.* **78**, 3818-3823 (1997)
5. Direct Measurement of the Top Quark Mass, DØ Collaboration (S. Abachi *et.al.*), *hep-ex/9703008 e Phys. Rev. Lett.* **79**, 1197-1202 (1997)
6. Measurement of the Top Quark Pair Production Cross Section in $p\bar{p}$ Collisions, DØ Collaboration (S. Abachi *et.al.*), *hep-ex/9704015 e Phys. Rev. Lett.* **79**, 1203-1208 (1997)
7. Limits on WWZ and $WW\gamma$ Couplings from $p\bar{p} \rightarrow e\nu jjX$ Events at $\sqrt{s} = 1.8$ TeV, DØ Collaboration (B. Abbott *et.al.*), *hep-ex/9705010 e Phys. Rev. Lett.* **79**, 1441-1446 (1997)
8. Color Coherent Radiation in Multijet Events from $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV, DØ Collaboration (B. Abbott *et.al.*), *hep-ex/9706012 e Phys. Lett.* **B414**, 419-427 (1997)
9. Studies of Gauge Boson Pair Production and Trilinear Couplings, DØ Collaboration (S. Abachi *et.al.*), *hep-ex/9704004 e Phys. Rev. D* **56**, 6742-6778 (1997)
10. Search for Scalar Leptoquark Pairs Decaying to Electrons and Jets in $\bar{p}p$ Collisions, DØ Collaboration (B. Abbott *et.al.*), *hep-ex/9707033 e Phys. Rev. Lett.* **79**, 4321-4326 (1997)

10.1.5 Publicados em 1998

1. **Search for Top Squark Pair Production in the Dielectron Channel**, DØ Collaboration (S. Abachi *et.al.*), *hep-ex/9612009* e *Phys. Rev. D* **57**, 589-593 (1998)
2. **Experimental Search for Chargino and Neutralino Production in Supersymmetry Models with a Light Gravitino**, DØ Collaboration (B. Abbott *et.al.*), *hep-ex/9708005* e *Phys. Rev. Lett.* **80**, 442-447 (1998)
3. **Measurement of Dijet Angular Distributions and Search for Quark Compositeness**, DØ Collaboration (B. Abbott *et.al.*), *hep-ex/9707016* e *Phys. Rev. Lett.* **80**, 666-671 (1998)
4. **Search for the Trilepton Signatures from the Associated Gaugino Pair Production**, DØ Collaboration (B. Abbott *et.al.*), *hep-ex/9705015* e *Phys. Rev. Lett.* **80**, 1591-1596 (1998)
5. **Search for First Generation Scalar Leptoquark Pairs in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV**, DØ Collaboration (B. Abbott *et.al.*), *hep-ex/9710032* e *Phys. Rev. Lett.* **80**, 2051-2056 (1998)
6. **Measurement of the Top Quark Mass Using Dilepton Events**, DØ Collaboration (B. Abbott *et.al.*), *hep-ex/9706014* e *Phys. Rev. Lett.* **80**, 2063-2068 (1998)
7. **Search for the Decay $B \rightarrow X_s \mu^+ \mu^-$** , DØ Collaboration (B. Abbott *et.al.*), *hep-ex/9801027* e *Phys. Lett. B* **423**, 419-426 (1998)
8. **$Z\gamma$ Production in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV and Limits on Anomalous $ZZ\gamma$ and $Z\gamma\gamma$ Couplings**, DØ Collaboration (B. Abbott *et.al.*), *hep-ex/9710031* e *Phys. Rev. D* **57**, 3817-3821 (1998)
9. **A Measurement of the W Boson Mass at the Fermilab $p\bar{p}$ Collider**, DØ Collaboration (B. Abbott *et.al.*), *hep-ex/9712028* e *Phys. Rev. Lett.* **80**, 3008 (1998)
10. **Determination of the Mass of the W Boson Using the DØ Detector at the Fermilab Tevatron**, DØ Collaboration (B. Abbott *et.al.*), *hep-ex/9710007* e *Phys. Rev. D* **58** 012002 (1998)
11. **Measurement of the Shape of the Transverse Momentum Distribution of W Bosons Produced in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV**, DØ Collaboration (B. Abbott *et.al.*), *hep-ex/9803003* e *Phys. Rev. Lett.* **80**, 5498-5503 (1998)
12. **Search for Charge -1/3 Third-Generation Leptoquarks in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV**, DØ Collaboration (B. Abbott *et.al.*), *hep-ex/9803009* e *Phys. Rev. Lett.* **81**, 38-43 (1998)
13. **Limits on Anomalous $WW\gamma$ and WWZ Couplings**, DØ Collaboration (B. Abbott *et.al.*), *hep-ex/9803017* e *Phys. Rev. D* **58**, 031102 (1998)

14. **Search for Heavy Pointlike Dirac Monopoles**, DØ Collaboration (B. Abbott *et.al.*), *hep-ex/9803023* e *Phys. Rev. Lett.* **81**, 524-529 (1998)
15. **Limits on $WW\gamma$ and WWZ Couplings from W Boson Pair Production**, DØ Collaboration (B. Abbott *et.al.*), *hep-ex/9803004* e *Phys. Rev. D* **58**, 051101 (1998)
16. **Direct Measurement of the Top Quark Mass by the DØ Collaboration**, DØ Collaboration (B. Abbott *et.al.*), *hep-ex/9801025* e *Phys. Rev. D* **58**, 052001 (1998)
17. **Measurement of the W Boson Mass**, DØ Collaboration (B. Abbott *et.al.*), *hep-ex/9712029* e *Phys. Rev. D* **58**, 092003 (1998)
18. **Probing Hard Color-Singlet Exchange in $p\bar{p}$ Collisions at $\sqrt{s} = 630$ GeV and 1800 GeV**, DØ Collaboration (B. Abbott *et.al.*), *hep-ex/9809016* e *Phys. Lett. B* **440**, 189-202 (1998)

10.1.6 Publicados em 1999

1. **Inclusive jet cross sections in $\bar{p}p$ collisions at $\sqrt{s} = 630$ GeV and 1800 GeV**, DØ Collaboration (B. Abbott *et.al.*), *hep-ex/0001063* e *Nucl. Phys. Proc. Suppl.* **79**, 229 (1999)
2. **Subjet multiplicity in quark and gluon jets at D0**, DØ Collaboration (B. Abbott *et.al.*), *hep-ex/9907059* e *Nucl. Phys. Proc. Suppl.* **79**, 494 (1999)
3. **Determination of the Absolute Jet Energy Scale in the DØ Calorimeters**, DØ Collaboration (B. Abbott *et.al.*), *hep-ex/9805009* e *Nucl. Instr. and Meth. A* **424**, 352-394 (1999)
4. **Search for Squarks and Gluinos in Single-Photon Events With Jets and Large Missing Transverse Energy in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV**, DØ Collaboration (B. Abbott *et.al.*), *hep-ex/9808010* e *Phys. Rev. Lett.* **82**, 29-34 (1999)
5. **Small Angle J/ψ Production in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV**, DØ Collaboration (B. Abbott *et.al.*), *hep-ex/9807029* e *Phys. Rev. Lett.* **82**, 35-40 (1999)
6. **Search for Nonstandard Higgs Bosons Using High Mass Photon Pairs in $p\bar{p} \rightarrow \gamma\gamma + 2$ Jets at $\sqrt{s} = 1.8$ TeV**, DØ Collaboration (B. Abbott *et.al.*), *hep-ex/9811029* e *Phys. Rev. Lett.* **82**, 2244-2249 (1999)
7. **Inclusive Jet Cross Section in $\bar{p}p$ Collisions at $\sqrt{s} = 1.8$ TeV**, DØ Collaboration (B. Abbott *et.al.*), *hep-ex/9807018* e *Phys. Rev. Lett.* **82**, 2451-2456 (1999)
8. **Dijet Mass Spectrum and a Search for Quark Compositeness in $\bar{p}p$ Collisions at $\sqrt{s} = 1.8$ TeV**, DØ Collaboration (B. Abbott *et.al.*), *hep-ex/9807014* e *Phys. Rev. Lett.* **82**, 2457-2462 (1999)

9. **Measurement of the Top Quark Pair Production Cross Section in $p\bar{p}$ Collisions Using Multijet Final States**, DØ Collaboration (B. Abbott *et.al.*), *hep-ex/9808034* e *Phys. Rev. D***60**, 012001 (1999)
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5. **“Search for scalar leptoquarks in the acoplanar jet topology in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV”**, V. M. Abazov *et al.* [DØ Collaboration], *hep-ex/0607009* e *Phys. Lett. B* **640**, 230 (2006)
6. **“Search for particles decaying into a Z boson and a photon in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV”**, V. M. Abazov *et al.* [DØ Collaboration], *hep-ex/0605064* e *Phys. Lett. B* **641**, 415 (2006), [Erratum-*ibid. B* **670**, 455 (2009)]
7. **“Search for R-parity violating supersymmetry via the LL anti-E couplings λ_{121} , λ_{122} or λ_{133} in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV”**, V. M. Abazov *et al.* [DØ Collaboration], *hep-ex/0605005* e *Phys. Lett. B* **638**, 441 (2006)
8. **“Search for squarks and gluinos in events with jets and missing transverse energy in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV”**, V. M. Abazov *et al.* [DØ Collaboration], *hep-ex/0604029* e *Phys. Lett. B* **638**, 119 (2006)

9. “Measurement of $B(t \rightarrow Wb) / B(t \rightarrow Wq)$ at $\sqrt{s} = 1.96$ TeV”, V. M. Abazov *et al.* [DØ Collaboration], hep-ex/0603002 e *Phys. Lett. B* **639**, 616 (2006)
10. “Search for pair production of second generation scalar leptoquarks in p anti-p collisions at $\sqrt{s} = 1.96$ TeV”, V. M. Abazov *et al.* [DØ Collaboration], hep-ex/0601047 e *Phys. Lett. B* **636**, 183 (2006)
11. “Measurement of the isolated photon cross section in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV”, V. M. Abazov *et al.* [DØ Collaboration], hep-ex/0511054 e *Phys. Lett. B* **639**, 151 (2006), [Erratum-ibid. B **658**, 285 (2008)]
12. “Search for pair production of scalar bottom quarks in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV”, V. M. Abazov *et al.* [DØ Collaboration], hep-ex/0608013 e *Phys. Rev. Lett.* **97**, 171806 (2006)
13. “Search for associated Higgs boson production $WH \rightarrow WWW^* \rightarrow \ell^\pm \nu \ell'^\pm \nu' + X$ in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV”, V. M. Abazov *et al.* [DØ Collaboration], hep-ex/0607032 e *Phys. Rev. Lett.* **97**, 151804 (2006)
14. “Search for neutral, long-lived particles decaying into two muons in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV”, V. M. Abazov *et al.* [DØ Collaboration], hep-ex/0607028 e *Phys. Rev. Lett.* **97**, 161802 (2006)
15. “Search for the Standard Model Higgs Boson in the $p\bar{p} \rightarrow ZH \rightarrow \nu\bar{\nu} b\bar{b}$ channel”, V. M. Abazov *et al.* [DØ Collaboration], hep-ex/0607022 e *Phys. Rev. Lett.* **97**, 161803 (2006)
16. “Search for resonant second generation slepton production at the Tevatron”, V. M. Abazov *et al.* [DØ Collaboration], hep-ex/0605010 e *Phys. Rev. Lett.* **97**, 111801 (2006)
17. “Search for neutral Higgs bosons decaying to τ pairs in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV”, V. M. Abazov *et al.* [DØ Collaboration], hep-ex/0605009 e *Phys. Rev. Lett.* **97**, 121802 (2006)
18. “A precise measurement of the B_s^0 lifetime”, V. M. Abazov *et al.* [DØ Collaboration], hep-ex/0604046 e *Phys. Rev. Lett.* **97**, 241801 (2006)
19. “First direct two-sided bound on the B_s^0 oscillation frequency”, V. M. Abazov *et al.* [DØ Collaboration], hep-ex/0603029 e *Phys. Rev. Lett.* **97**, 021802 (2006)
20. “Search for the Higgs boson in $H \rightarrow WW^{(*)}$ decays in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV”, V. M. Abazov *et al.* [DØ Collaboration], hep-ex/0508054 e *Phys. Rev. Lett.* **96**, 011801 (2006)
21. “Measurement of the $t\bar{t}$ production cross section in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV using secondary vertex b -tagging”, V. M. Abazov *et al.* [DØ Collaboration], hep-ex/0611002

22. “**Measurement of the top quark mass in the lepton+jets final state with the matrix element method**”, V. M. Abazov *et al.* [DØ Collaboration], hep-ex/0609053 e Phys. Rev. D **74**, 092005 (2006)
23. “**Measurement of B_d mixing using opposite-side flavor tagging**”, V. M. Abazov *et al.* [DØ Collaboration], hep-ex/0609034 e Phys. Rev. D **74**, 112002 (2006)
24. “**Measurement of the CP-violation parameter of B^0 mixing and decay with $p\bar{p} \rightarrow \mu^+\mu^-X$ data**”, V. M. Abazov *et al.* [DØ Collaboration], hep-ex/0609014 e Phys. Rev. D **74**, 092001 (2006)
25. “**Limits on anomalous trilinear gauge couplings from $WW \rightarrow e^+e^-$, $WW \rightarrow e^\pm\mu^\mp$, and $WW \rightarrow \mu^+\mu^-$ events from $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV**”, V. M. Abazov *et al.* [DØ Collaboration], hep-ex/0608011 e Phys. Rev. D **74**, 057101 (2006), [Erratum-ibid. D **74**, 059904 (2006)]
26. “**Search for a heavy resonance decaying into a Z + jet final state in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV using the DØ detector**”, V. M. Abazov *et al.* [DØ Collaboration], hep-ex/0606018 e Phys. Rev. D **74**, 011104 (2006)
27. “**Search for excited muons in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ - TeV**”, V. M. Abazov *et al.* [DØ Collaboration], hep-ex/0604040 e Phys. Rev. D **73**, 111102 (2006)
28. “**Search for the rare decay $B_s^0 \rightarrow \phi\mu^+\mu^-$ with the DØ detector**”, V. M. Abazov *et al.* [DØ Collaboration], hep-ex/0604015 e Phys. Rev. D **74**, 031107 (2006)

10.2 Teses e Monografias

1. **Estudo da Seção de Choque de Produção Inclusiva de Múons a Baixos Ângulos em Colisões $p\bar{p}$ a $\sqrt{s} = 1,8\text{TeV}$** – sob a orientação do Dr. Alberto Santoro e co-orientação do Dr. Arthur Maciel. Defendida em 23 de maio de 1995, para obtenção do Título de *Doutor em Ciências Físicas* pelo Centro Brasileiro de Pesquisas Físicas. Membros da Banca Examinadora:
 - Dr. Alberto Santoro (LAFEX/CBPF) — Presidente
 - Dr. Carlos Ourivio Escobar (IF/USP)
 - Dr. José Bellandi Filho (UNICAMP)
 - Dr. Ronald Shellard (LAFEX/CBPF)
 - Dr. Gilvan Augusto Alves (LAFEX/CBPF)
2. **Análise Experimental do Decaimento $D^+ \rightarrow \phi K^+$, Duplamente Suprimido por Cabibbo** – sob a orientação do Dr. Alberto Santoro e co-orientação do Dr. Ignácio Bediaga. Defendida em 18 de abril de 1991, para obtenção do Título de *Mestre em Ciências Físicas* pelo Centro Brasileiro de Pesquisas Físicas. Membros da Banca Examinadora:
 - Dr. Alberto Santoro (LAFEX/CBPF) — Presidente
 - Dr. Ronald Shellard (PUC/RJ)
 - Dr. Jader Benuzzi Martins (DFNAE/UERJ)
 - Dr. Luiz Carlos Almeida (DNE/CBPF)
3. **Interferência de Luz** – sob a orientação do Prof. Henrique S. Antunes Neto, homologado como *Trabalho de Conclusão de Curso de Bacharelado em Física* pelo Departamento de Física da UFPa, em janeiro de 1988.

11 Aprovações em Concursos Públicos

1. Aprovado em 1º lugar no concurso público para provimento de uma vaga de Professor Adjunto, no Departamento de Física Nuclear e Altas Energias (DFNAE), da Universidade do Estado do Rio de Janeiro (UERJ), realizado em outubro de 1995;
2. Aprovado em 1º lugar no concurso público para Assistente de Pesquisa da Comissão Nacional de Energia Nuclear (Cnen), realizado em dezembro de 1994;
3. Aprovado em 2º lugar no exame de qualificação para o Doutorado em Física do CBPF, realizado em dezembro de 1988;
4. Aprovado em 4º lugar no concurso de seleção ao programa de Mestrado em Física do CBPF, realizado em dezembro de 1987;
5. Aprovado em 1º lugar no Concurso Vestibular de 1986 da UFPa, para o curso de Tecnólogo em Processamento de Dados;
6. Aprovado em 1º lugar no Concurso Vestibular de 1984 da UFPa, para o curso de Bacharelado em Física;
7. Aprovado em 2º lugar no Concurso Vestibular de 1984 do Centro de Estudos Superiores do Estado do Pará (CESEP), para o curso de Engenharia Civil, tendo cursado dois anos (1984 e 1985).

12 Bolsas Recebidas

1. Bolsa de Pós-Doutorado no Exterior (CNPq) (out/98 a mar/2000)
2. Bolsa de Produtividade em Pesquisa (CNPq) (set/98, cancelada em virtude de viagem ao exterior, para evitar acúmulo de bolsa.)
3. Bolsa do Programa Prociência (UERJ), a partir de setembro de 1997
4. Bolsa de Recém-Doutor (CNPq) (ago/95 a mar/96)
5. Bolsa de Doutorado no País (CAPES) (out/93 a fev/95)
6. Bolsa de Doutorado Sanduíche no Exterior (CNPq) (out/92 a set/93)
7. Bolsa de Doutorado Sanduíche no Exterior (CAPES) (out/91 a set/92)
8. Bolsa de Doutorado no País (CNPq) (mar/91 a ago/91)
9. Bolsa de Mestrado concedida pela Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES) (mar/88 a fev/91)
10. Bolsa de Iniciação Científica, concedida pelo Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq) (mar/87 a fev/88)

11. Bolsa de Iniciação Científica, concedida pela Pró-Reitoria de Pesquisa e Pós-Graduação da Universidade Federal do Pará (ago/86 a dez/86)

13 Situação Atual

- *Research Associate* na *Northern Illinois University*, em regime de tempo integral, desenvolvendo ferramentas de simulação de detectores e algoritmos de reconstrução para o futuro acelerador linear de 1 TeV;
- Membro da Colaboração Científica Internacional DØ, desenvolve pesquisas relativas à produção e identificação de quarks pesados em colisões de prótons e antiprotons a energias de 1,8 TeV;
- Membro do Corpo Docente do Programa de Pós-Graduação em Física do Instituto de Física da UERJ;

14 Áreas de Interesse Atual

Estudo experimental das propriedades dos quarks de sabores pesados utilizando as técnicas da Física Experimental de Altas Energias, com especial interesse nos seguintes tópicos:

- Técnicas de Simulação Monte Carlo, especialmente simulação de detectores (Geant4) e descrição geométrica (GDML)
- Algoritmos de *Particle Flow*
- Física de Sabores Pesados (*charme*, *bottom*, *top*) – Propriedades de produção e decaimento
- Algoritmos de reconhecimento de padrões (*pattern recognition*) e reconstrução de vértices
- Identificação de jatos de quarks bottom (*b-tagging*)

Rio de Janeiro (RJ), 29 de abril de 2005

José Guilherme Lima